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THE LOGIC OF EVOLUTION.

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THE word "evolution" is one of the significant and masterful words in the thought of our times. As everyone knows, various classes of people regard the doctrine of evolution with very different emotions. Some conjure with it and construe everything in its categories. Others fear it and lose no opportunity of discounting its claims. But among scientific writers, says Professor LeConte, there is no longer any discussion of the general truth of the law of evolution; the only differences of opinion relate to the causes of the law. Among Christian theologians there has long been a widespread fear of the law of evolution, due in a large measure to the feeling that it means the elimination of religion and immortality and God from human thought.

It is not the purpose of this paper to appraise or to controvert the theory of evolution. Whether evolution, as it is now defined, be a valid and satisfactory theory of the origin and development of things does not here concern us. The fact is that many persons accept the theory as a logical and reasonable explanation of the origin and development of the cosmic and vital order. And the fact remains, also, that in the name of evolution many of the things that Christian men hold dear are questioned or rejected by many evolutionists. And the further fact remains that in the name of evolution conclusions are often drawn which seem to negative many of the Christian's dearest hopes.

For one, I am convinced that this is a great mistake. I am satisfied that the logic of evolution does not negative one of these dear hopes of the Christian believer. The truth is that many of those who profess and call themselves evolutionists are wholly unaware of the logical implications of their belief. They accept the theory, but they are unacquainted with its logic. Philosophy has been defined as the art of thinking things together; and not many of the masters of evolutionary speech have thought together the things of evolution and the other things of life; and hence they have failed to see some of the wider and higher implications of their theory. In what follows we shall consider what evolution is, what are its laws and factors, its forces and methods; then we shall be in a position to consider some of its logical and necessary conclusions. Whether evolution as a hypothesis is able to explain all the phenomena of nature and life we do not here consider. The fact remains that it is the working hypothesis in the scientific and practical thought of our time. For the time being, therefore, we accept the hypothesis at its face value, and we ask: What are its laws and methods? What is its system of logic? What are its logical implications?

I. The law of evolution, according to Herbert Spencer, is a progressive movement from the simple to the complex, and from the homogeneous to the heterogeneous. The formula in full stands thus:

> Evolution is an integration of matter and concomitant dissipation of motion; during which the matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the retained motion undergoes a parallel transformation.[1]

Mr. Spencer maintains that this is the character displayed equally in the earliest changes which the universe at large is supposed to have undergone, and in those latest changes which we trace in society and the products of social life. The term "evolution," according to Professor LeConte, connotes "a continuous progressive change, according to certain laws, and by means of resident forces."[2]

In the popular mind the term "evolution" is mainly confined to the development of the organic kingdom; and for this reason he applies the term chiefly to the changes of this kingdom. These changes, he maintains, take place according to certain laws that are called the laws of differentiation, of heredity, and of progress of the whole. The resident forces include not only the vital energies in the organism, but also the cherishing energies of the environment.

The factors of evolution in the organic kingdom, according to its best exponents, are four at least: (1) The physical environment—heat, cold, dryness, and moisture, and all the other conditions of existence—affects functions of organs, and function affects structure; both changed function and changed structure are inherited by offspring, and so increased from generation to generation, becoming greater without limit. (2) The increased use or disuse of organs enforced or permitted by change in the environment induces change in form, size, and structure of the organs. (3) Variation, a natural process for which we are not yet able to account, and which produces at birth structures which may prove advantageous when tested by natural selection, and which may be transmitted to the posterity, to the improvement of the species, or to the origination of a higher species. (4) Natural selection, or survival of the fittest among divergent varieties of offspring. How far can these factors explain the law of evolution?

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[1] *First Principles*, sec. 145.

[2] *Evolution and its Relation to Religious Thought*, p. 8.

It is generally believed that the human race has descended from a common ancestor. Yet in the race, as we find it today, there are endless varieties of people: black, yellow, red, and white; some are tall and some are short; some have "long heads" and others have "short heads." These external differences are paralleled by internal differences no less marked; in mental and linguistic qualities, in religion and morality, in social ideas and social practices. How do we account for these differences, which are patent to all mankind? The explanation is that these variations are due primarily to the conditions of life amid which the different divisions of the race have lived. Food and climate, scenery and altitude, with the other natural conditions, have determined these diverse racial characteristics. The changes in the environment to which man is subjected, it is contended, are sufficient to account for all these changes in the human race.

What is true of human life on a small scale, it is maintained, is likewise true of all sentient life on a large scale. Between the organism and the environment there has been a constant action and reaction. The changes in the environment have induced changes in the organism in form and structure, and these changes have come under the influence of natural selection, and some have been perpetuated from generation to generation. But not all of these variations are perpetuated, for not all are found advantageous to the organism. The variations that are found useless—that is those which give the organism no advantage in the struggle of life—are rigidly eliminated by the process of natural selection. Thus only the variations that are found useful—that is, those which give the organism some advantage in the struggle of life—are retained and perpetuated.

It does not fall within the scope of my purpose to consider this vexed question of the origin of variations. For a long time the battle has raged around this point, and the issue is not yet clearly decided. It is now pretty well agreed that what are called acquired qualities are not transmitted to the offspring. Yet it is no less agreed that variations occur, and under the influence of natural selection a harmony is maintained between the organism and the environment. The element of sex, it is plain, plays an important part in the drama of evolution. According to Professor Weismann, each new generation grows out of the united germ plasms of the two parents, whence arises a mingling of their characters in their offspring. This occurs in each generation; hence every individual is a complex result, reproducing in ever-varying degree the diverse characteristics of his two parents, four grandparents, eight great-grand-parents, and other remote ancestors; and thus the ever-present individual variation arises which furnishes material for natural selection to act upon.[3] Through this funding of individual differences in a common offspring there is a tendency to divergent variation in this offspring. Then, when a complex organism is thus sexually propagated, there is an ever-present cause of change, which, though slight in any one generation, is cumulative, and is sufficient to keep up the harmony between the organism and its slowly changing environment.

It has not been possible for scientists to determine fully and accurately the causes of variation and change. How far the causes of such variation and change are subjective or objective; how far they are produced by the parental factors or are induced by the cherishing quality of the environment, we may never be able fully to determine. But for our purpose it matters little. These changes and variations may be produced by the factors within the organism, or they may be nourished by the environment without. Through all one fact remains; the variations that are found useful—that is, those which give it some advantage in the struggle of life—are perpetuated and transmitted; and, on the other hand, those variations which are not found useful—that is, those which give it no advantage in the struggle of life—are rigidly eliminated. And one other fact remains: there is a constant and vital relation between the organism, which we may call the subjective term in the relation, and the environment, which we may call the objective term in the relation. Thus the conservation of a variation and the perpetuation of an organ indicate two things: first, these variations and organs are advantageous to the organism; and, secondly, these variations and organs find their warrant and reason in the environment. Every change that is proved advantageous is approved as a true step; and this true step is indicated by the relation between the organism and its environment.

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[3] See WALLACE, *Darwinism*, p. 439.

Again, life, according to the modern scientific definition, is the continuous adjustment of internal relations and external relations. The degree of life is measured by the number and dignity of these correspondences. Thus, we say that the bird has more life than the flower, because it is in relations with a much wider environment. The flower may respond to certain external relations, such as warmth and moisture, but there are whole worlds of reality that are wholly beyond its range. The bird, however, responds to these relations, and to many more; it lives in a world of light and sound, and this correspondence brings it a certain amount of pleasure or pain. In like manner, man possesses more life than the bird, for the reason that he is in relations with a much wider range of environment. The man lives in a world of color and beauty, of intelligence and morality; and, what is more important, these external relations find certain subjective responses within his own being.

According to the theory of evolution, this development of life is effected by the action and reaction of the organism and the environment. Some new change appears in the environment, and this is followed by a change in the organism. The new and improved organ that appears is the response of life to the conditions of its environment. The changes and variations that appear in the organism are retained simply and solely on the ground of their advantageousness to the living creature. There is an objective term, the environment, and this gradually induces the subjective term, the organ, to come into being. The subjective term is here because the objective term is here also. But we may reverse this process and may say that the changes in the form and structure of the organism are the direct result of the conditions of the environment. These changes in the organism are the subjective response to the objective conditions. The objective term begets the subjective; the objective condition is the occasion of the subjective term. The subjective term is real; hence the objective term must be no less real.

Thus, there are in the world vibrations of ether that in an adapted organ produce the sensation of light. Through the ages of the past, according to the evolution hypothesis, there has been an increasing subjective response to the objective reality; and thus the eye has been developed from the primitive pigment spot that is merely able to distinguish light from darkness, to the human eye that can detect the finest shades of color. There is no chance-work here. The eye and the light are made for one another, and the presence of the one implies the other. The light has induced the eye and the eye is produced by the light. Sight in the organism is real because light in the environment is real. The progress of the eye has been secured through its progressive adaptation to external relations. The subjective term, the eye, is as it is because the objective term, the light, is as it is. The sense of sight, the subjective term in the relation, is here because the objective term, the reality of light, is here also. The presence of the subjective term, the sense of sight, implies the reality of the objective term, the reality called light.

In the larger bearings of the theory we are told that the changes in the organism have been induced by the conditions in the environment, and the progress of life has been achieved through the adjustment of living beings to external realities; and only those changes and adaptations have been preserved that have been advantageous to life. For the present we may accept this as a provisional explanation of the processes of development. But now let us consider some of the logical implications of this theory.

II. There are several important corollaries that grow out of all this. We may name these: the rational world, the moral order, the personal God, and the immortal life.

1. *The rational world.*—That man is a rational creature is a commonplace of thought. To deny this is to commit intellectual suicide; to deny this is to appeal to reason for the ground of one's denial. In saying that man is a rational creature we do not mean that all men are rational; for common observation shows the

contrary. There are many men—one is almost inclined to say a majority—who live in their impulses and prejudices, and not in their reason and conscience. But in saying that man is a rational creature we affirm that rationality is the normal attitude of man, and that irrationality is the abnormal thing. By this term "rational" we mean that man possesses the faculty of reason; that this faculty enables him to perceive that things move in an orderly and methodical way, to perceive the relation of one thing to another, to adapt means to ends, to classify and arrange his knowledge, and to formulate laws and principles. This faculty of reason in mankind is found at all stages and in all degrees. In the lowest races, so called, the faculty exists in a crude way and in lowly degrees; but the lowliest man is able to reason, to perceive the relation of one thing to another, and to adapt means to ends. In the higher races, so called, this faculty exists in a developed form and in larger degrees; and this gives birth to arts, literatures, and sciences. Rational man is able to make mental note and record of the things that his senses report to him; but he is able to do a great deal more. He is able to perceive how things are grouped and by what laws they are organized. He is able to know and classify the objects around him; he is able to discern and systematize the chemistry of all worlds; he is able to apprehend and formulate the laws of planetary motion; he is able to discern and state the principles of mathematics that prevail throughout the universe; in a word, he is able to perceive a true objective reasonableness in the world of which he is a part.

According to the evolution hypothesis, this faculty of reason in man has been developed in and through a natural process. For its earliest beginnings we are told that we must look far down in the scale of life; to understand its development, we must trace its progress through all the ranges of world-life. Through a process of adaptation to environment and of natural selection this faculty has been evolved, from primitive sentiency, through animal instinct, up to human reason. Whatever we may think of this explanation, two things are to be noted: every adjustment whereby a creature sustains life is called a true step, and every maladjustment whereby life is wrecked is called a false step; and the adjustments that make for rationality in life are true steps and have rigidly been conserved, and all maladjustments that are against rationality are false steps and have rigidly been eliminated. This means that reason is the one faculty which the natural process is seeking to inwork into conscious life; this means that the natural process is working for rational ends through rational means. *Ex nihilo nihil*—this is a fundamental postulate of all evolutionary and rational thought. The rational faculty has been inwrought into life in and through the processes of life. This means that there is a rational order in the universe that has induced this rational faculty to appear in the organism. This rational faculty has come forth in man's being, because the energies of the universe have put it there. When we say that any faculty or power is the product of evolution, we affirm that it is something which the energies of the universe are laboring to bring forth. Reason, the subjective term, is existent in man; hence reason, the objective term, must be existent in the universe. To say that the subjective term may be existent when the objective term is non-existent is without precedent in the whole history of creation, and is wholly contrary to the evolution hypothesis. Man is a rational being; hence, by the very necessities of the case, the universal order must be rational; that is, there must be in it a reason equal to man's reason. But the more man studies the universe, the more wonderful it becomes, and the more rational appears its order. The science of astronomy is just beginning to give man glimpses of an order in the greater universe that lies beyond the range of his unaided eye.

We are not here concerned with the nature of this reason that is revealed in and through the order of the universe. We know that it is a reason like man's, but greater; we know that the term "rational" when predicated of the universe may mean more, but it cannot mean less, than the term "rational" when predicated of man. According to the logic of evolution, the faculty of reason has come forth in man because the rational energies put it there. The qualities of rationality have been found advantageous to the organism, and gains in rationality have been approved as true steps. There is a subjective rationality in man, and hence there must be an objective rationality in the universe. It is sometimes said that man projects his own mental processses into the world around him, and reads in the universe the projections of his own imagination. But this explanation does not explain anything. For the one thing to be accounted for is this very faculty of reason in man. This faculty of reason has not come about by chance, for evolution excludes all chance; it has not been snatched out of some empty and irrational heavens, for evolution allows no such thefts. It has, therefore, come forth in man as the subjective response to the objective conditions; it has developed in life because its development has been approved as a true step.

2. *The moral order.*—Is the universe moral? In their study of the moral order men have given very different interpretations of the processes of life. There are those who find nature a non-moral sphere, who declare that from the natural order we can derive no moral laws for the guidance of life. Thus John Stuart Mill declares that the order of nature, in so far as it is unmodified by man, is such as no being whose attributes are justice and benevolence would have made.[4] "Conformity to nature has no connection whatever with right and wrong."[5] Professor Huxley, at the very close of his life, finds in nature no trace of ethical principles; the cosmic process has no relation to moral ends; social progress means the checking of the cosmic process at every step, and the substitution for it of another which may be called the ethical process.[6] Professor Lester F. Ward, Mr. Winwood Reade, and Mr. Benjamin Kidd follow the same line of reasoning and come to the same conclusions. Professor Huxley, "after sharing the fortunes of evolution all his life, in his latter days, by a remarkable *tour de force*—the last thing which his former associates might have expected of him—ejects himself from the world-order and washes his hands of it in the name of the Ethical Man." The critics have not been slow to point out the extreme illogicality of his position. Well may Mr. Spencer ask in significant language: "If the ethical man is not the product of the cosmic process, what is he a product of?" According to the thoroughgoing evolutionists, the cosmic process has produced everything that exists; whatever results have been secured have come about in and through this process. It is not easy to understand how the cosmic process can produce something that wholly transcends and reverses that process.

According to Professor Huxley, man's moral conceptions have grown out of his experiences and relations with other men, and not out of his experiences and observations of the universe as a whole. But, according, to Professor Huxley, man himself is the product of this cosmic process; and hence it follows that man's moral conceptions are the product of the same cosmic process. The fact is that men in all ages have felt that the order of the universe had a moral significance. Nature was believed to take note of man's doings, and to be hostile to the evil-doer and friendly to the well-doer. The customs of many peoples were largely based upon this conviction. Fire will burn the transgressor, water will drown him, the lightning will strike him, the viper will sting him. Among many peoples we find indications of this belief in the ordeals by fire and water and poison. In all these cases there is the belief that the objects and order of nature have moral discernment and are hostile to the evil-doer. In all ages men have endeavored to construct systems of ethics based upon their interpretation of the meaning of the world and the order of nature. In these later times efforts have been made to develop principles of ethics that are based wholly upon induction from the order and processes of the world. Mr. Spencer, as is well known, rules revelation out of his thought, yet he constructs a system of ethics that is fairly satisfactory to the Christian theologian, in its principles and requirements. The conclusion is therefore inevitable that nature is not non-moral or immoral, as some have represented it to be, but that it has a definite moral method. Mr. Spencer rejects the theological basis of ethics as unsatisfactory, and controverts the utilitarian theories as being inadequate. When these false teachers are put to silence, he interrogates the universal order for himself, that he may know the truth of the matter. By a synthetic study of this order he is enabled to construct a system of ethics, and for this system he claims cosmic warrant.

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[4] *Three Essays*, p. 25. [5] *Ibid.*, p. 62. [6] *Evolution and Ethics*, p. 81.

For our purpose it matters little how the moral sense with its moral conceptions has been inwrought into human life; the fact remains that man has the faculty of making moral distinctions and that he possesses a system of moral ideas. Whatever may be their origin, moral ideas prevail as part and parcel of man's thought and life. It is possible that the evolutionary hypothesis is correct in its contention that man's ethical ideas have grown and developed with the development and progress of man himself. It is possible that these ideas have come up through lowly form of cosmic life. It is possible that these ideas have been stripped of their grosser vestments till they have stood revealed in the present ethical ideas of mankind. But, instead of undermining man's ideas of ethical obligation, as some have unthinkingly supposed, evolution really confirms that obligation and gives it universal warrant. *Ex nihilo nihil.* This, as we have seen, is a fundamental postulate of all rational thought of the universe and of life. The sense of moral distinctions, with the consequent feeling of moral obligation, has been inwrought into life in and through the processes of the world. The idea of ethical distinctions, with the conception of ethical obligation, has not come about by chance, for chance has no place in the universe; it has not been snatched out of the air, unless the air itself is a vast ethical depository; it has not been invented by cunning priests and kings, for this leaves the idea and the obligation unexplained.

According to the evolution hypothesis, this ethical consciousness has come forth in man's life because the energies of the universe have put it there. Man possesses a moral consciousness; and in all ages men have found a moral significance in the cosmic order. The subjective term, the ethical consciousness, is here in man, because the objective term, the ethical order, is in the universe. The subjective term, the ethical consciousness, has come forth in man's life, because there is an objective term, an ethical texture, in the very universe itself. As the wing of the bird is the subjective response to the objective air; as the fin of the fish is the subjective term that answers to the objective reality, water; as the subjective eye and ear have been produced because there is an objective stimulus that calls them forth; so the ideas of ethical truth have come forth in human thought and have developed in human society because the reason and order of the universe have called them forth and have given them warrant. Mr. John Fiske was regarded by Mr. Herbert Spencer as his ablest American exponent. Mr. Fiske, in his address on "Evolution and Religion" delivered at the Spencer banquet in New York, November 9, 1882, said:

> For clearly, when you say of a moral belief or a moral sentiment that it is a product of evolution, you imply that it is something which the universe through

> untold ages has been laboring to bring forth, and you ascribe to it a value proportionate to the enormous effort that it has cost to produce it. . . . . [Thus] we see that the very same forces, subtle and exquisite and profound, which brought upon the scene the primal germs of life and caused them to unfold, ... we see that these very same subtle and exquisite forces have wrought into the very fibers of the universe those principles of right living which it is man's highest function to put into practice.

The distinction between right and wrong, we hence see, is "rooted in the deepest foundations of the universe." According to the hypothesis of evolution, the ethical sentiment is the product of evolution; it has come forth into life because there is an ethical texture in the universe itself; according to the logic of evolution, the distinction between right and wrong is rooted in the deepest foundations of the universe, and the universe is ethical from center to circumference. Ethics is the nature of things.

3. *The living God.*—There are those who say that evolution has to do with the method of creation, and as a consequence it has nothing to say concerning origins or ends. But a method that starts nowhere and goes nowhither is no method at all. However, for the moment we pass over all questions of origin and end, and consider only facts and methods.

In our study of man we find that the idea of God is part and parcel of his mental furniture, and is practically universal. Man is a religious being—"incurably religious," in fact. The form of his religion may be crude, and his ideas may be superstitious; the object of his worship may be unknown and misjudged; but the universal belief and impulse and practice declare that religion belongs to the nature of man. Now, according to the evolution hypothesis, this idea of God is a product of evolution, and, like all other things, it has come up from lowly beginnings. The thoroughgoing evolutionist endeavors to explain the method by which man's religious ideas have come into human thought. At first through an experience of sleep and dreams, man arrives at the idea of a disembodied spirit; he easily makes the transition to the belief in ghosts of the dead. These supernatural agents are supposed to do men favors or to send men disease, and hence they are to be feared and propitiated. From ancestor-worship man passes on to the worship of idols and fetiches; through nature-worship man passes on to the belief in deities, and by a process of exclusion he arrives at the idea of Deity. This may all be, though it must be confessed that not all the proof has as yet been made complete. But for the moment we accept this hypothesis at its face value, and ask: What does it imply? What is the logical outcome of it all?

The idea of God, it is admitted, is here as a part of man's mental furniture. How has this idea got itself wrought into human life? The idea could not have come by chance, for evolution allows no place for chance to enter and to work; it could not have been snatched out of the empty heavens, unless the very heavens are divine; it could not have been invented by cunning priests, for this fails to explain the consciousness in priests and people. Nor can the idea of God be explained on the ground that man has projected his mental processes into the world around him, and has read in the universe the projections of his own thought; for this view utterly fails to account for the mental state in man himself. How has it come about, also, that men's ideas of God, at first low and base, have become purer and higher? This *tendency* itself must be accounted for, or nothing is explained.

According to the theory of evolution, whatever changes occur in the organism are changes induced by the environment. The changes that promote the welfare of the organism are called true steps, and are rigidly conserved; the changes that are useless to the organism are called false steps, and are as rigidly eliminated. In the long run, only those changes are conserved which are found to promote life. But, according to the theory of evolution, the condition of the environment is the occasion of the changes in the organism. The changes in the organism are the resultant and correlate of the conditions of the environment. The presence of the subjective term implies the reality of the objective term. The subjective term is a reality, and hence the objective term must be a reality also. For whatever changes and improvements are found in the organism are changes and improvements induced by the environment. To say that the subjective term can be existent when the objective term is non-existent is wholly without precedent in the whole history of creation, and is in direct contradiction of the logic of evolution. Says Mr. Fiske:

> All the analogies of evolution, so far as we have been able to decipher it, are overwhelmingly against any such supposition. To suppose that during countless ages, from the sea weed up to man, the progress of life was achieved through adjustment to external realities, but that then the method was all at once changed, and throughout a vast province of evolution the end was secured through adjustments to external nonrealities, is to do sheer violence to logic and to common sense.[7]

According to the logic of evolution, the idea of God has come to birth in man's consciousness because the energies of the universe put it there. The idea of God, the subjective term in the relation, has come forth in man's consciousness because there is an objective term, a Divine Reality, in the universe itself. When therefore men say that the religious ideas of man are products of evolution, they assert that these ideas are something which the universe is laboring to bring forth. Says John Fiske again:

> The doctrine of evolution asserts, as the widest and deepest truth which the study of nature can disclose to us, that there exists a Power to which no limit in time or space is conceivable, and that all the phenomena of the universe, whether they be what we call material or what we call spiritual phenomena, are manifestations of this infinite and eternal Power.—*Excursions of an Evolutionist*, p. 301.

The poet who speaks of the universe as the star-domed city of God, he continues, and reminds us that through every grass blade, but most through every living soul, the glory of the present God still beams, means pretty much the same thing as Mr. Spencer means, save that he speaks with the language of poetry, with language colored by emotion, and not with the precise, formal, and colorless language of science.

> When the Hebrew prophet declared that "by Him were laid the foundations of the deep," but reminded us, "Who by searching can find Him out?" he meant pretty much what Mr. Spencer means, when he speaks of a Power that is inscrutable in itself, yet is revealed in every throb of the mighty rhythmic life of the universe.

These words derive additional meaning from the fact that they were spoken in Mr. Spencer's presence, in exposition of his relation to religious thought. At the conclusion of Mr. Fiske's address, Mr. Spencer said:

> Fiske, should you develop to the fullest the ideas you have expressed here this evening, I should regard it as a fitting supplement to my life-work.

[7] *Through Nature to God*, pp. 189, 190.

If the religious nature of man has no reality corresponding to it; if the subjective term has no objective reality answering to it, then, indeed, man is put to hopeless and permanent intellectual and moral confusion. A rational, moral, and religious being cannot be produced by an irrational, unethical, and godless universe. *Ex nihilo nihil.* According to the logic of evolution, we have found that this is a rational world; that is, intelligence and reason are revealed in and through its processes and methods. And we have also seen that there is an ethical order; that is, an ethical will is revealing and realizing itself in and through the processes and methods of life. And in addition we have found that there is a divine Power; that is, there is an infinite and eternal Power that is disclosing and fulfilling itself in and through the order of the universe. Summing up and combining our logical results thus far, we find that evolution makes us know that there is a rational and ethical Power who is revealing and realizing himself in and through the order of the world and the life of man. This Power may be as much greater and higher than man as the universe is larger and grander than he, but one thing is certain: it cannot be less or lower. This Power may possess something higher and larger than the fact that we call personality in man; but one thing is certain: it cannot possess anything less or lower than personality.

4. *The immortal life.*—In like manner we may apply the logic of evolution in its bearing upon the idea of life everlasting. We are not here concerned with the origin and development of this belief; the belief in an invisible world, whatever may be its origin, is here as an indisputable fact in life. It may be, as the evolutionists maintain, that this idea has been inwrought into human life in and through a process of evolution; it may be that the idea had its beginnings in very lowly ideas of sleep and dreams, of swoon and catalepsy; it may be that it has been wrought into life through the belief in ghosts and spirits, and that it has been wrought out through a process of development. But all this is not to explain away the idea; this is not to deny its validity; nay, rather, this is to confirm it; this is to give it cosmic and universal warrant. For to say that the belief has come into life through the process of evolution is to put the prestige of the universe behind it. The moment we say of an idea or a sentiment

that it is a product of evolution, we affirm that it is something which the universe has been laboring to bring forth. And when we say that it is something which the universe has been laboring to bring forth, we assert that there is a world of reality above and behind the visible. This sentiment could not have developed, were it not advantageous to man; and it could not have been advantageous to man, were it not the correspondence of internal relations to external relations. As the eye has been made because there is an objective stimulus to call it forth; as the ideas of ethical truth have come forth into human thought because the very texture of the universe has an ethical significance; so the sentiment of immortality has been inwrought into human life by the very universe itself. Man believes that he is related to an invisible and eternal world; and, according to the logic of evolution, the reality of this belief argues the reality of this world. To suppose that the subjective term in the relation is real, when the objective term is non-existent, is utterly without precedent in the whole history of creation. According to the teaching of science, any adjustment whereby life is sustained and advanced is called a true step, and any maladjustment whereby life is hindered and wrecked is called a false step. This means that Nature throughout her realms pitilessly rejects all false steps, and as invariably conserves all true steps. Nature throughout her course has carefully conserved the steps leading man up into the belief in an invisible and eternal world; and hence the analogies of life confirm man's belief in this world, and give that belief universal warrant and validity. This belief, the subjective term in the relation, is a fact in human life; and this implies an objective reality, the other term in the relation. The whole logic of evolution, hence, yields the conclusion and conviction that throughout all the ages of the past the human soul has been established in this conviction and belief, because there is an objective reality in the universe to call it forth. Thus the belief in an invisible and eternal world has the entire prestige of nature behind it. The deepest and strongest implication of the doctrine of evolution confirms us in the conviction that there is an invisible and eternal world of which man is a part and for which he is made.

In the name of evolution all kinds of objections are framed against the fundamental Christian ideas. In the name of evolution agnosticism is being promulgated as the wise man's attitude with respect to the questions of Deity and immortality. The cure for an agnostic evolution is a logical evolution. It is possible that man will never be able to demonstrate God and immortality as one demonstrates a proposition in geometry. Here we walk by faith and not by sight. But some things of God may be known from nature, says the apostle, even his eternal power and Godhead. Whether evolution shall finally be accepted as the full and logical explanation of the origin and method of things, it is not for us here to determine. The one fact that concerns us here is this: that the Christian believer need have no fears for the logic of evolution, though that logic be applied to the last letter. It is possible that some of the other great Christian ideas lie wholly beyond the range of evolution and logic, and that they must forever remain matters of revelation and faith. But I am of the opinion that the great realities that we know as revelation, incarnation, redemption, and retribution can also be given a place within the logic of evolution. At any rate, when we have thus much evidence that there is an infinite and eternal Power who is rational and ethical, who has made man for honor and immortality, we have a firm foundation for our faith and a splendid beginning for our theology.

A fire mist and a planet—
  A crystal and a cell—
A jelly fish and a saurian,
  And a cave where the cave men dwell;
Then a sense of law and beauty,
  And a face turned from the clod;
Some call it Evolution,
  And others call it God.[8]

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[8] W. H. CARRUTH.